

REMARKS

Claims 1-26 are pending in the present application. Applicants respectfully request reconsideration of the claims in view of the following remarks.

The Examiner rejected claims 1-13, 16-23 and 25 under 35 U.S.C. § 103(a) as assertedly being unpatentable over Nakamura, *et al.*, U.S. Patent No. 6,920,173 (“Nakamura”) in view of Kim, U.S. Patent No. 6,801,007 (“Kim”).

Independent claim 1 recites “orthogonal frequency division multiplexing (OFDM) demodulating the symbol after the despreading the symbol.” Independent claim 16 recites “an orthogonal frequency division multiplexing (OFDM) demodulator coupled to an output of the despreader.” The Office Action attempts to combine Nakamura and Kim to read on these elements, stating that it would have been obvious to a person of ordinary skill in the art at the time the invention was made to “apply Kim’s OFDM transmission/receiving system and block encoding method therefor into Nakamura’s spread spectrum signal receiver apparatus and interference cancellation apparatus with the motivation being to provide a system and method for a multi carrier reception for UWB systems.” Office Action, p. 6. Applicants respectfully traverse. Nakamura and Kim, taken alone or in combination, do not teach or suggest performing OFDM on a symbol after the symbol has been despread.

Nakamura discloses a CDMA system having despreader 201 followed by demodulator 202. *See, e.g.*, Nakamura, Fig. 1; col. 17:27-30; col. 12:47-52; col. 1:23-26. Nakamura’s demodulator 202 employs a standard demodulation technique, such as BPSK, for “demodulating ‘1’, ‘0’ of user data and control data on the basis of the result of despreading.” Nakamura, col. 12:47-52. Kim, on the other hand, discloses an OFDM system having an FFT 113 for OFDM followed by a Q-ary demodulator 114. *See, e.g.*, Kim, Fig. 1B, col. 3:39-45. Kim’s Q-ary

demodulator 114 employs a standard demodulation technique, such as QPSK or QAM. Kim, col. 3:21-29. There is no teaching or suggesting of performing OFDM in Nakamura, and there is no teaching or suggesting of performing despreading in Kim. Thus there is no teaching or suggestion that the two systems of Nakamura and Kim could be combined in the first place, let alone as an operational, functional system. Even if the two references could be combined, there is clearly no teaching or suggesting as to the order of performing the OFDM and despreading functions. While BPSK, QPSK and QAM modulation techniques might be interchangeable within or between systems, OFDM performs a very different type of function from these modulation techniques, and therefore it would not have been obvious to one of ordinary skill in the art at the time the invention was made to combine the two references to implement OFDM in a CDMA system utilizing BPSK. And it clearly would not have been obvious to combine them in a very specific manner such that OFDM is performed after despreading in a receiver.

Objective evidence of nonobviousness, “sometimes referred to as ‘secondary considerations,’ may include evidence of commercial success, long-felt but unsolved needs, failure of others, and unexpected results. The evidence may be included in the specification as filed, accompany the application on filing, or be provided in a timely manner at some other point during the prosecution.” M.P.E.P. § 2141(II) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)). As stated in Applicants’ specification, there was an unsolved need in the prior art to reduce the power consumption and computational requirements of prior art systems. *See, e.g.*, Application, ¶¶ [0009]-[0010]. Because despreading reduces the spectral space consumed by the received signal, Applicants’ claims recite that OFDM is performed after despreading. This allows the OFDM demodulation to operate on a smaller amount of information, thus reducing the number of computations required to perform the OFDM demodulation. *See, e.g.*,

Application, ¶ [0042]. Applicants thus have discovered a way to meet these long-felt but unsolved needs.

For all the above reasons, Applicants respectfully submit that independent claims 1 and 16 are nonobvious and patentable over Nakamura and Kim. Claims 2-13 depend from claim 1, and claims 17-23 and 25 depend from claim 16, and add further limitations to their respective independent claims. Applicants respectfully submit that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding new limitations.

Applicants acknowledge that claims 14-15, 24, and 26 are objected to, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Based on the foregoing remarks, however, Applicants believe that each of the independent claims from which these claims depend are in condition for allowance. Thus, Applicants respectfully submit that these dependent claims are allowable by reason of depending from an allowable claim as well as in their own right.

Applicants have made a diligent effort to place the claims in condition for allowance. Should there remain unresolved issues that require adverse action, however, Applicants respectfully request that the Examiner telephone Applicants' Attorney, Ron Neerings, at 972-917-5299, so that such issues may be resolved as expeditiously as possible. In the event that the enclosed fees are insufficient, please charge any additional fees required to keep this application pending, or credit any overpayment, to Deposit Account No. 20-0668.

Respectfully submitted,

August 18, 2008

Date

SLATER & MATSIL, L.L.P.
17950 Preston Rd., Suite 1000
Dallas, Texas 75252
Tel.: 972-732-1001
Fax: 972-732-9218

/Brian A. Carlson/

Brian A. Carlson
Attorney for Applicants
Reg. No. 37,793